


# PATENT COOPERATION TREATY

# PCT

REC'D 05 OCT 2004

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

Applicant's or agent's file reference 0000054806		<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/14354	International filing date (day/month/year) 16.12.2003	Priority date (day/month/year) 16.12.2002	
International Patent Classification (IPC) or both national classification and IPC C07C209/52			
Applicant BASF AKTIENGESELLSCHAFT			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand  15.07.2004		Date of completion of this report  04.10.2004	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer  Kleidernigg, O  Telephone No. +49 89 2399-2143	



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/EP 03/14354**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*

**Description, Pages**

1-6 as originally filed

**Claims, Numbers**

1-15 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages: -  
☐ the claims, Nos.:  
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY  
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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	1-15
	No: Claims	
Inventive step (IS)	Yes: Claims	1-15
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-15
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

## **Section V**

D1: WO 00 69805 A (PERRIN JANET GILLES ; LEROY PIERRE (FR); ANCEL  
JEAN ERICK (FR); AVE) 23 November 2000 (2000-11-23)  
D2: EP-A-0 878 461 (CLARIANT GMBH) 18 November 1998 (1998-11-18)

The present application is directed to process for the preparation of halogenated anilines from substituted 1-chlorobenzenes which comprises a) reacting halogenated 1-chlorobenzene selectively with an imine in the presence of a transition metal catalyst complex and a base to form an N-aryl imine; and b) hydrolysing the N-aryl imine; and c) isolating the substituted halogenated aniline.

D1 represents the closest prior art and differs from the subject matter of the present application insofar that a substituted phenylhydrazine, stemming from the reaction of 1,3,5-trichlorobenzene and hydrazine hydrate, is hydrogenated in the presence of Raney nickel (cf. examples 1-6, claims 1-6).

The technical problem may be regarded as the provision of an improved process for the production of halogenated anilines.

The solution is given in the in claim 1 and concerns the formation of an N-aryl imine and its subsequent hydrolysis to the desired aniline derivative.

However, this kind of reaction protocol appears to be less dangerous compared to the use of hydrazine. The reaction protocol proposed by the present application is also not deducible for the skilled person in the art from D1.

Thus, the subject matter of claims 1-15 fulfills the criteria of Article 33(2) and (3) PCT with respect to the available prior art.